

Europäisches Patentamt  
European Patent Office  
Office européen des brevets



(11) **EP 0 889 421 A1**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:  
07.01.1999 Bulletin 1999/01

(51) Int Cl.<sup>6</sup>: **G06F 17/30**

(21) Application number: **98304651.7**

(22) Date of filing: **12.06.1998**

(84) Designated Contracting States:  
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU  
MC NL PT SE**  
Designated Extension States:  
**AL LT LV MK RO SI**

(72) Inventors:  
• **Nazem, Farzad**  
**Redwood City, California 94061 (US)**  
• **Patel, Ashvinkumar P.**  
**Milpitas, California 95035 (US)**

(30) Priority: **12.06.1997 US 873975**

(74) Representative:  
**Cross, Rupert Edward Blount et al**  
**BOULT WADE TENNANT,**  
**27 Funnival Street**  
**London EC4A 1PQ (GB)**

(71) Applicant: **Yahoo, Inc.**  
**Santa Clara, California 95051 (US)**

(54) **Dynamic page generator**

(57) An custom page server is provided with user preferences organized into templates stored in compact data structures and the live data used to fill the templates stored local to the page server which is handing user requests for custom pages. One process is executed on the page server for every request. The process is provided a user template for the user making the request, where the user template is either generated from user preferences or retrieved from a cache of recently used user templates. Each user process is provided access to a large region of shared memory which contains

all of the live data needed to fill any user template. Typically, the pages served are news pages, giving the user a custom selection of stock quotes, news headlines, sports scores, weather, and the like. With the live data stored in a local, shared memory, any custom page can be built within the page server, eliminating the need to make requests from other servers for portions of the live data. While the shared memory might include RAM (random access memory) and disk storage, in many computer systems, it is faster to store all the live data in RAM.

**EP 0 889 421 A1**

**Description****BACKGROUND OF THE INVENTION**

5 The present invention relates to the field of customized information presentation. More specifically, one embodiment of the invention provides a custom page server which can quickly serve custom pages and is scalable to handle many users simultaneously.

Web servers for serving static documents ("Web pages") over the global Internet are known. While static documents are useful in many applications where the information to be presented to each requesting user is the same, some applications require customization to appeal to users. For example, in presenting news to users, custom pages present news which is more relevant to the requesting users than static pages. With static pages, a user will often have to scroll through many topics not of interest to that user to get to the information of interest. With custom pages, the information is filtered according to each user's interest.

Customizing a server response based on the requestor is known, however known systems do not scale well. One method of serving custom pages is to execute a script, such as a CGI (Common Gateway Interface) script, or other program to collect the information necessary to generate the custom page. For example, if the custom page is a news page containing stock quotes, sports scores and weather, the script might poll a quote server to obtain the quotes of interest, poll a sports score server to obtain the scores of interest and poll a weather server to obtain the weather. With this information, the server generates the custom page and returns it to the user. This approach is useful where there are not many requestors and where the attendant delay is acceptable to users. While it may be the case that current users are willing to wait while pages load in their browsers, growing impatience with waiting will turn users away from such servers, especially as use increases.

One approach to avoiding long waits is to transfer the custom information in non-real-time, so that the information is stored local to the user as it arrives and is presented to the user on request. A disadvantage of such a system is that the networks used by the user become clogged with data continually streaming to the user and require large amounts of local storage. Another disadvantage is that the locally stored information will become out of date as the server receives new data.

From the above it is seen that an improved system for delivering custom pages is needed.

**SUMMARY OF THE INVENTION**

The present invention provides an improved custom page server. In one embodiment, user preferences are organized into templates stored in compact data structures and the live data used to fill the templates is stored local to the page server which is handling user requests for custom pages. One process is executed on the page server for every request. The process is provided a user template for the user making the request, where the user template is either generated from user preferences or retrieved from a cache of recently used user templates. Each user process is provided access to a large region of shared memory which contains all of the live data needed to fill any user template. Typically, the pages served are news pages, giving the user a custom selection of stock quotes, news headlines, sports scores, weather, and the like. With the live data stored in a local, shared memory, any custom page can be built within the page server, eliminating the need to make requests from other servers for portions of the live data. While the shared memory might include RAM (random access memory) and disk storage, in many computer systems, it is faster to store all the live data in RAM.

If the volume of requests becomes too great for one page server to handle, the system is easily scaled by adding additional page servers. Each page server maintains its own copy of the live data in its shared memory, and needs to maintain only the user templates for the requests it is handling, so no communication between page servers is needed.

Examples of embodiments of the inventions herein may be realized by reference to the remaining portions of the specification and the attached drawings.

**BRIEF DESCRIPTION OF THE DRAWINGS**

FIG. 1 is a block diagram of a client-server architecture according to one embodiment of the present invention; FIG. 2 is a schematic diagram showing how a user's custom page is generated from a user configuration, a global template and live data.

FIG. 3 is an illustration of a global front page template as might be used to generate user templates.

FIG. 4 is an illustration of a user template generated from the global front page template of FIG. 3 as might be used to generate a custom user page.

FIG. 5 is an illustration of a user page generated using the global template of FIG. 4.

FIG. 6 is an illustration of how intelligent defaults are selected.

Two appendices are included at the end of this description. Appendix A is a full listing of the user template shown in part in FIG. 4. Appendix B is an HTML source code listing of the HTML page used to generate the browser display shown in FIG. 5.

## 5 DESCRIPTION OF THE PREFERRED EMBODIMENTS

FIG. 1 shows a client-server system 100 which is used to display custom news pages. A custom news page is displayed on a browser 102 which obtains the page from a page server 104 via Internet 106. While only one browser 102 is shown, a typical system will have many browsers connecting and disconnecting to the system.

10 The art of client-server systems using HTTP (HyperText Transport Protocol) messaging or other protocols is well known and will not be addressed in detail here. Essentially, browser 102 makes a request for a particular page by specifying a Uniform Resource Locator ("URL") for the page. In the example shown in FIG. 1, the request is directed to the URL "http://my.yahoo.com/". Normally, this URL is directed to the root directory of a machine named my.yahoo.com. As is the convention in Internet communications, browser 102 submits the domain portion ("my.yahoo.com") of the URL to a name server, such as name server 108, to determine an actual address for the page server 104. Name server 108 returns an IP (Internet Protocol) address to browser 102 directing it to a page server 104. Where multiple page servers 104 are used, name server 108 returns IP addresses in a round-robin fashion to distribute the load over multiple page servers. Alternatively, name server 108 might distribute the load more deterministic by tracking browser addresses and hashing the browser address to select a page server 104. It is deterministic in that any given browser 15 always accesses the same page server 104. This allows for more efficient caching of user templates, since more cache hits are likely where a given browser always returns to one page server.

When a page server receives the URL for its root directory, it interprets that as a request for the user's custom summary page. The user is determined not from the URL, but from a "cookie" provided by browser 102 with the URL. Cookies are strings of data stored by browsers and sent along with any request to a URL having a domain associated 20 with the cookie.

Page servers 104 obtain the live data from many disparate sources and reformat the data into a form suitable for use by the page server. Page servers 104 are coupled, via a network, to edit servers 112, which are used when a user changes his or her user template. The user templates are stored in a user configuration database 116 and are stored and provided to edit servers by a network appliance 114 written for this purpose. Network appliance 114 is a process 25 tuned to quickly locate files in large directories (N400 files/directory) and return them to the edit servers or page servers. One embodiment of network appliance 114 is the F330 fault-tolerant scalable server supplied by Network Appliance, of Mountain View, California.

In a specific embodiment, page servers 104 are microcomputers running the Unix® operating system with 64 to 128 megabytes of shared memory, page servers 104 and edit servers 112 are coupled using TCP/IP (Transport Control Protocol/Internet Protocol) and the user configuration database 116 is a Unix file structure which stores each user 30 configuration in a text file. The particular file used by a user is a combination of the user's user name and a hash result, to allow for quick access when many user configurations are stored. For example, the user configuration for summary "front" page for a user "ash802" might be stored at /de/13/y.ash802, where "de" and "13" are hash results of a hash of the user name "ash802".

FIG. 2 shows in more detail the generation of a custom page for a user, using a front page generator 200 and page server 104. Front page generator 200 generates a user template 202 from a global front page template 204 and a user configuration record 206. FIG. 3 shows an example of a global front page template. User configuration record 206 is a record selected from user configuration database 116. The record might have been obtained from a cache, but in the preferred embodiment, the records are not cached, the user templates are.

40 Page server 104 is shown comprising a page generator 210, a shared memory 212 for storing live data and a cache 214 for caching user templates such as user template 202. Page generator 210 generates a custom front page 218 from a user template and the live data stored in shared memory 212. Although not shown, custom pages other than the front page can be generated in a similar fashion. Using user templates and a shared memory for the live data, page server 104 can quickly build custom pages in response to a user request. Where the user template is cached, the page can be generated entirely within page server 104.

50 Shared memory 212 is organized as a set of memory mapped files. With memory mapped files, the operating system maintains the data in permanent storage, but permanently caches the files in shared memory 212. This allows for quick recovery should a page server crash, since all of the shared memory can simply be reloaded from the permanent storage. This is a great feature from a user convenience standpoint, since the user will never be faced with a situation where they have to wait for a server to rebuild a page for them by querying the various data providing servers, such as sports server 230, stock server 232 and news server 234. As should be apparent from this description and FIG. 2, page generator 210 can generate custom front page 218 much more quickly using shared memory 212 as compared with using servers 230, 232, 234 and page template 202. One reason for this is that the time it takes to 55

retrieve data from shared memory 212 does not appreciably increase relative to the bandwidth delay time when more data is retrieved. For example, if stock server 232 were queried for each individual stock quote, a page with fifty stock quotes might take ten times as long to generate as a page with five stock quotes.

One aspect of the present invention is the realization that every piece of information a person can request on a page is storable in a shared memory closely coupled to a page generator. For example, page server 104 shown in FIG. 2 can accommodate 65,000 different symbols for which quotes are provided. In one embodiment, all of the stock information for all 65,000 symbols is stored in a 13 to 14 megabytes section of the shared memory. Where shared memory 212 is a 64MB or 128MB memory, this leaves sufficient room for other data, such as news headlines, sport scores, and memory used by the operating system for each process running on page server 104. In some embodiments, shared memory 212 is large enough to also accommodate more than just news headlines. For example, news summaries (as described further in connection with FIG. 5) can be stored in shared memory 212 for quick access.

As shown in FIG. 2, the user's front page template 202 does not need to be generated each time, but rather is stored in cache 214. In a preferred embodiment, user templates are stored in cache 214 for long enough to be reused. Some users might choose to access their front page only infrequently, while others might choose to access their front page hourly. Since the pages are customized and dynamic, the user would see different information each time, but the same user template would be used each time. Of course, when the user edits his or her template, any cached copy of a user template is flushed. A garbage-collection process may also flush the cache of user pages which have been inactive for several days. In one implementation, cache 214 would accommodate 60,000 to 70,000 user templates. Where a particular page server is assigned on a random round robin basis, multiple page servers may cache their own copy of a given user template, but where a user is directed always to a particular server (except in the case where the particular server fails and a secondary server is used), that page server will be the only one which needs to cache that user's user template. Even where the round robin name server scheme is used, some browsers may cache IP addresses, even longer than the specified "time to live" variable associated with the IP address, in order to save the time required to obtain an IP address each time. With such a browser, the user is effectively directed to the same page server each time and the server side of the page serving system does not need to direct users to particular page servers. With newer browsers, however, the "time to live" variable is honored and new requests are made for IP addresses after the "time to live" has expired. In these cases, if the assignment of a user to a single page server is desired, name server 108 (see FIG. 1) will use the user name from the provided cookie or the user's IP address to assign a page server based on a hash of the user name or IP address.

FIG. 3 is an illustration of global user template 204. Global user template 204 is an HTML (HyperText Markup Language) document with additional tags as placeholders for live data. Several placeholders 302 are shown in FIG. 3.

FIG. 4 is an illustration of user template 202 as might be generated from global user template 204 (see Fig. 3) and a user configuration record 206. A full listing of user template 202 is included herewith in Appendix A. User template 202 is determined by the user configuration and is independent of the live data, therefore it can be cached without needing to be updated, unless the user chooses to edit the configuration information. Preferably, the user templates are cached rather than the user configuration, to save a step and reduce the time to respond to a request for the page. Caching is more effective where the typical user makes several requests in a short time span and then doesn't make any requests for a long period of time.

Essentially, user template 202 contains the information about the user which does not change until the user changes his or her preferences. Of course, the system operator could choose to make changes to how the system operates, thus requiring changes to the user preferences and user templates. User template 202 is shown comprising internal variables such as a time zone and demographic information. The demographic information, on the second line in FIG. 4 is used for selection of an advertisement which will be part of the custom page. In this example, the advertisement is targeted by the demographic information in the user template "M,85,95035,T," indicating that a suitable ad should be targeted to a male user, age 85, located in zip code 95035, etc. As shown, the portfolio section contains selected stock symbols, the scoreboard section contains selected team symbols, and the weather section contains selected weather cities/zip codes.

The selections of stock quote symbols, team scores, and weather cities are set by the user. In a preferred embodiment, intelligent defaults are selected by the system prior to user selection, so that users unfamiliar with the customization process will nonetheless be able to view non empty custom pages. This is described in further detail below in connection with FIG. 6.

FIG. 5 is an illustration of a user front page 218 returned by page server 104. User front page 218 as shown in FIG. 5 includes many elements, some of which are described here in further detail. User front page 218 is built according to a user template and live data. The user template specifies, for example which quotes are shown in the portfolio module, which cities are displayed in the weather module, etc. Each of the modules 504 can be customized by a user and moved about front page 218. The modules 504 are also reusable, in that any customized module which appears on multiple pages can be edited from any one of those pages and the edits will be reflected on each of the pages. Other custom pages for the user can be viewed by selecting one of the page buttons 502 appearing below the header.

Other pages and utilities can be selected using the buttons 508 which are part of the header.

In addition to all of the live date shown in FIG. 5 being stored in the shared memory, summaries from each of the major news topics can also be stored in the shared memory and viewed by pressing on the news topic header, such as news topic header 506. As should be noted, the page generator can also intelligently display dates 510 customized for a particular user, using a time zone variable in the user template. This time zone variable is shown as the first line in user template 202 in FIG. 4. In addition to being able to modify each of the modules, in many cases the order of appearance of the modules is customizable. For example, the order of the various sections of user template 202 shown in FIG. 4 is not fixed.

The preference editing process can be initiated by the user pressing the appropriate edit button 512. As explained above, once the editing process is complete, the user template is flushed from the cache and regenerated. Since each of the news stories is essentially a static page linked to a headline shown in the news section, these can simply be linked to static pages on a news server.

Referring now to FIG. 6, an illustration of intelligent defaulting for populating a user template, and consequently a user summary page. As part of a registration process, a user indicates, among other things, his or her zip code. This zip code is used to locate an approximate longitude and latitude for the user using a zip code lookup table 602. This allows the user's location to be located on a map 604. Map 604 provides city boundaries and, with team location table 606, also provides locations for various sports teams which can be selected in a sports module. In selecting a default predetermined number of cities and sports teams for inclusion as initial selections for a particular user, a circle is drawn around the user and increased in diameter until the circle envelopes a suitable predetermined number of cities and sports teams. In this way, each user is guaranteed a default number of nearby teams and cities for sports and weather, respectively. While this assumes that the user is interested in only the teams nearest the user, the system can be arranged to provide intelligent defaults where geographic anomalies are known to exist. Geographic anomalies occur in communities which have more loyalty to distant teams than nearby teams, such as might occur when the distant team is much better than the nearby team or when the nearby team recently moved to a distant location. In any case, the user is allowed customize his or her pages beginning with the intelligent defaults selected.

Other intelligent defaults can be provided in other contexts. For example, the header of user front page 218 includes a button 508 labelled "myweb" which, when pressed, would lead the user to a custom listing of web sites. The initial defaults for that custom listing of web sites might be generated based on the keywords of interest to that user or based on the news topics, sports teams or weather cities selected by the user.

## Appendix A. Listing of a User Template

```

5 <!-- timezone:-8, PT 0 -->
  <!-- ad:M,85,95035,T,+ 792 -->
  <!--
portfolio:Quotes,pf_1,1,^DJI,^NYA,^IXIC,^SPX,^XAX,YHOO,NSCP,IOM,NSCP,YHOO
10 2836 -->
  <!--
scoreboard:NCAAFSSC,NHLSAN,MLSSAN,NCAAFSSS,ALOAK,NBAGSW,NFLOAK,NCAAFCCD,NF
LSFO,NLSFO 3803 -->
  <!-- weather:f,30901,uk_londo,94601,95101 4368 -->
  <!--
15 mode_bar:"FRONT_PAGE",.hier=News+Summary%3aEdit&.done=http://my.yahoo.com/
news/summary.html?v 4538 -->
  <!-- summary2:3,rt,rw,z0000,mlb,re,vf 4597 -->
  <!-- motd:us_motn.html 4696 -->
20 <html>
  <head>
  <title>My Yahoo! news summary for ash802</title>
25 </head>
  <body>

  <center>
30 <map name="top"><area shape=rect coords="0,0,45,66"
href="/news/summary.html?v"><area shape=rect coords="45,0,90,66"
href="/internet/directory.html?v"><area shape=rect coords="90,0,135,66"
href="/contacts/white_pages.html?v"><area shape=rect coords="135,0,346,66"
35 href="/?myHome"><area shape=rect coords="346,0,389,65"
href="/help/news/summary.html"><area shape=rect coords="389,0,431,66"
href="http://edit.my.yahoo.com/config/eval_profile"><area shape=rect
coords="431,0,477,66" href="http://edit.my.yahoo.com/config/toffly">
40 </map>
  <center><a href="/bin/top_menu"></a></center>

45 <p>
  <center><form action="http://search.my.yahoo.com/search/my"> <font
size="-2">[ <a
50 href="http://edit.my.yahoo.com/config/set_attr?attr=sloc&value=b&.done=htt
p://my.yahoo.com/news/summary.html?v">move to bottom</a> ] </font><input
size=25 name=p> <font size="-1">&nbsp; <input type=submit
value=Search><input type=hidden name=n value="25"> &nbsp; <a
href="http://search.my.yahoo.com/search/my/options">Options</a></font></fo
55 rm></center><o>

```

```

<center>
<table border=0 cellspacing=0 cellpadding=2>
<tr>
5   <td align=center><font
    color="#000000"><b>Sections:</b>&nbsp;&nbsp;&nbsp;</font></td>
    <td align=center bgcolor="#dcdcdc"><font
    color="#000000"><b>Front&nbsp;&nbsp;&nbsp;Page</b></font></td>
10  <td>&nbsp;&nbsp;&nbsp;|&nbsp;&nbsp;&nbsp;</td>
    <td align=center><a href="/news/business/summary.html?v">Business</a></td>
    <td>&nbsp;&nbsp;&nbsp;|&nbsp;&nbsp;&nbsp;</td>
    <td align=center><a
15  href="/news/portfolio_summary.html?v">Portfolios</a></td>
    <td>&nbsp;&nbsp;&nbsp;|&nbsp;&nbsp;&nbsp;</td>
    <td align=center><a
    href="/news/entertainment/summary.html?v">Entertainment</a></td>
20  <td>&nbsp;&nbsp;&nbsp;|&nbsp;&nbsp;&nbsp;</td>
    <td align=center><a href="/news/sports/summary.html?v">Sports</a></td>
    <td>&nbsp;&nbsp;&nbsp;|&nbsp;&nbsp;&nbsp;</td>
    <td align=center><a
25  href="/news/technology/summary.html?v">Technology</a></td>
</tr>
</table>
</center>
</center>
30  <table border=1 cellpadding=4 cellspacing=0 width="100%">
    <tr><td align=center valign=top width="1%">
    <a
    href="http://edit.my.yahoo.com/config/eval_left?mode=left_nsum&.done=http%
35  3a%2f%2fmy%2eyahoo%2ecom%2fnews%2fsummary%2html%3fv"></a>
    <table border=0 cellpadding=1 cellspacing=0 width="100%">
    <tr bgcolor="#dcdcdc"><td colspan=4 width="100%"><table border=0
40  cellpadding=2 cellspacing=0 width="100%"><tr><td width="100%"><b><font
    size="+1">P<font size="+0">ORTFOLIOS</font></font></b></td><td
    align=right><a
    href="http://edit.my.yahoo.com/config/eval_quotes?.done=http://my.yahoo.co
45  m/news/summary.html?v"></a></td></tr></table></td></tr>
    <tr><td align=center colspan=4><form method=get
50  action="http://quote.yahoo.com/quotes"><font size="-1"><input type=text
    size=10 name=symbols><input type=submit value="Get Quotes"><br><font
    size="0">quotes delayed 20 minutes - <a
    href="/fin_disclaimer.html">disclaimer</a><br>click on symbol for detailed
    quote + news<br><b>~</b> indicates new news during last
55  24hrs<font></form></td></tr></table>

```

```

5  <hr size=0><table border=0 cellpadding=1 cellspacing=0 width="100%">
    <tr bgcolor="#dcdcdc"><td colspan=5 width="100%"><table border=0
      cellpadding=2 cellspacing=0 width="100%"><tr><td width="100%"><a
        href="/sum/?http://sports.yahoo.com/"><b><font size="+1">S<font
10      size="+0">COREBOARD</font></font></b></a></td><td align=right><a
        href="http://edit.my.yahoo.com/config/set_sports?.done=http://my.yahoo.com
        /news/summary.html?v"></a></td></tr></table></td></tr>

    <hr size=0><table border=0 cellpadding=2 cellspacing=0 width="100%">
15    <tr bgcolor="#dcdcdc"><td colspan=3 width="100%"><table border=0
      cellpadding=2 cellspacing=0 width="100%"><tr><td width="100%"><a
        href="/my/?http://weather.yahoo.com/"><b><font size="+1">W<font
20      size="+0">EATHER</font></font></b></a></td><td align=right><a
        href="http://edit.my.yahoo.com/config/set_wni?.done=http://my.yahoo.com/ne
        ws/summary.html?v"></a></td></tr></table></td></tr>
    <tr><td align=center colspan=3><font size=0>click on city for extended
    forecast</font></td></tr>
    </table>

30    <hr size=0>
    <p></td>
    <td align=center valign=top width="100%">

    <table border=1 cellpadding=2 cellspacing=0 width="100%">
35    </table>

    </td></tr>
40    </table>

    <center>
    <table border=1 cellpadding=2 cellspacing=0 width="100%">
45    </table>
    </center>

50    <p>
    <hr>
    <center>
    <table border=0 cellpadding=0 cellspacing=0 width="100%">
    <tr>
55    <td align=left valign=top><table border=0 cellpadding=0 cellspacing=0>

```



```

1      <tr><td align=left valign=bottom><a href="/my/?http://www.yahoo.com/"></a></td>
      <td>&nbsp; &nbsp; &nbsp;</td>
      <td align=left valign=bottom width="100%"><font size="-1"><i>Copyright
&copy; 1994-1997 Yahoo! Inc. All rights reserved.</i><br>Portions
10     copyright &copy; 1997 Reuters Ltd. All rights reserved.<br>
Portions copyright &copy; 1997 SportsTicker Enterprises LP. All rights
reserved.<br>
Portions copyright &copy; 1997 Weathernews Inc. All rights reserved.<br>
15     Portions copyright &copy; 1997 Business Wire. All rights reserved.<br>
Portions copyright &copy; 1997 PR Newswire. All rights reserved.<br>
Questions, comments, or suggestions? Send us <a
href="http://my.yahoo.com/feedback.html">feedback</a>.</font></td>
20     </tr>
      </table>
      </td>
      <td>&nbsp; &nbsp; &nbsp;</td>
25     <td align=right><a href="/bin/logout_menu"></a></td>
30     </tr>
      </table>
      </center>
      <map name=logout>
35     <area coords="0,0,50,68" href="/my/?http://www.yahoo.com/">
      <area coords="51,0,100,68"
href="http://edit.my.yahoo.com/config/login?logout=1">
      </map>
40     </body>
      </html>

```

Appendix B. Listing of a User Page

```

5  <html>
   <head>
   <title>My Yahoo! news summary for ash802</title>
   </head>
   <body>
10  <center>
   <map name="top"><area shape=rect coords="0,0,45,66"
   href="/news/summary.html?v"><area shape=rect coords="45,0,90,66"
   href="/internet/directory.html?v"><area shape=rect coords="90,0,135,66"
15  href="/contacts/white_pages.html?v"><area shape=rect coords="135,0,346,66"
   href="/?myHome"><area shape=rect coords="346,0,389,66"
   href="/help/news/summary.html"><area shape=rect coords="389,0,431,66"
   href="http://edit.my.yahoo.com/config/eval_profile"><area shape=rect
20  coords="431,0,477,66" href="http://edit.my.yahoo.com/config/toffly">
   </map>
   <center><a href="/bin/top_menu"></a></center>
25  <font size="-5"><p></font><!-- SpaceID=0 road -->

   <font size="-5"><p></font>
   <p>
30  <center><form action="http://search.my.yahoo.com/search/my"> <font size="-2">[ <a
   href="http://edit.my.yahoo.com/config/set_attr?attr=sloc&value=b&.done=http://my.y
   aahoo.com/news/summary.html?v">move to bottom</a> ] </font><input size=25 name=p>
   <font size="-1">&nbsp;<input type=submit value=Search><input type=hidden name=n
   value="25"> &nbsp;<a href="http://search.my.yahoo.com/search/my/options"
35  >Options</a></font></form></center><p>
   <center>
   <table border=0 cellpadding=2>
   <tr>
   <td align=center><font color="#000000"><b>Sections:</b>&nbsp;&nbsp;</font></td>
40  <td align=center bgcolor="#dcdcdc"><font
   color="#000000"><b>Front&nbsp;&nbsp;Page</b></font></td>
   <td>&nbsp;&nbsp;</td>
   <td align=center><a href="/news/business/summary.html?v">Business</a></td>
45  <td>&nbsp;&nbsp;</td>
   <td align=center><a href="/news/portfolio_summary.html?v">Portfolios</a></td>
   <td>&nbsp;&nbsp;</td>
   <td align=center><a
50  href="/news/entertainment/summary.html?v">Entertainment</a></td>
   <td>&nbsp;&nbsp;</td>
   <td align=center><a href="/news/sports/summary.html?v">Sports</a></td>
   <td>&nbsp;&nbsp;</td>
   <td align=center><a href="/news/technology/summary.html?v">Technology</a></td>
55  </tr>
   </table>

```

```

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151
152
153
154
155
156
157
158
159
160
161
162
163
164
165
166
167
168
169
170
171
172
173
174
175
176
177
178
179
180
181
182
183
184
185
186
187
188
189
190
191
192
193
194
195
196
197
198
199
200
201
202
203
204
205
206
207
208
209
210
211
212
213
214
215
216
217
218
219
220
221
222
223
224
225
226
227
228
229
230
231
232
233
234
235
236
237
238
239
240
241
242
243
244
245
246
247
248
249
250
251
252
253
254
255
256
257
258
259
260
261
262
263
264
265
266
267
268
269
270
271
272
273
274
275
276
277
278
279
280
281
282
283
284
285
286
287
288
289
290
291
292
293
294
295
296
297
298
299
300
301
302
303
304
305
306
307
308
309
310
311
312
313
314
315
316
317
318
319
320
321
322
323
324
325
326
327
328
329
330
331
332
333
334
335
336
337
338
339
340
341
342
343
344
345
346
347
348
349
350
351
352
353
354
355
356
357
358
359
360
361
362
363
364
365
366
367
368
369
370
371
372
373
374
375
376
377
378
379
380
381
382
383
384
385
386
387
388
389
390
391
392
393
394
395
396
397
398
399
400
401
402
403
404
405
406
407
408
409
410
411
412
413
414
415
416
417
418
419
420
421
422
423
424
425
426
427
428
429
430
431
432
433
434
435
436
437
438
439
440
441
442
443
444
445
446
447
448
449
450
451
452
453
454
455
456
457
458
459
460
461
462
463
464
465
466
467
468
469
470
471
472
473
474
475
476
477
478
479
480
481
482
483
484
485
486
487
488
489
490
491
492
493
494
495
496
497
498
499
500
501
502
503
504
505
506
507
508
509
510
511
512
513
514
515
516
517
518
519
520
521
522
523
524
525
526
527
528
529
530
531
532
533
534
535
536
537
538
539
540
541
542
543
544
545
546
547
548
549
550
551
552
553
554
555
556
557
558
559
560
561
562
563
564
565
566
567
568
569
570
571
572
573
574
575
576
577
578
579
580
581
582
583
584
585
586
587
588
589
590
591
592
593
594
595
596
597
598
599
600
601
602
603
604
605
606
607
608
609
610
611
612
613
614
615
616
617
618
619
620
621
622
623
624
625
626
627
628
629
630
631
632
633
634
635
636
637
638
639
640
641
642
643
644
645
646
647
648
649
650
651
652
653
654
655
656
657
658
659
660
661
662
663
664
665
666
667
668
669
670
671
672
673
674
675
676
677
678
679
680
681
682
683
684
685
686
687
688
689
690
691
692
693
694
695
696
697
698
699
700
701
702
703
704
705
706
707
708
709
710
711
712
713
714
715
716
717
718
719
720
721
722
723
724
725
726
727
728
729
730
731
732
733
734
735
736
737
738
739
740
741
742
743
744
745
746
747
748
749
750
751
752
753
754
755
756
757
758
759
760
761
762
763
764
765
766
767
768
769
770
771
772
773
774
775
776
777
778
779
780
781
782
783
784
785
786
787
788
789
790
791
792
793
794
795
796
797
798
799
800
801
802
803
804
805
806
807
808
809
810
811
812
813
814
815
816
817
818
819
820
821
822
823
824
825
826
827
828
829
830
831
832
833
834
835
836
837
838
839
840
841
842
843
844
845
846
847
848
849
850
851
852
853
854
855
856
857
858
859
860
861
862
863
864
865
866
867
868
869
870
871
872
873
874
875
876
877
878
879
880
881
882
883
884
885
886
887
888
889
890
891
892
893
894
895
896
897
898
899
900
901
902
903
904
905
906
907
908
909
910
911
912
913
914
915
916
917
918
919
920
921
922
923
924
925
926
927
928
929
930
931
932
933
934
935
936
937
938
939
940
941
942
943
944
945
946
947
948
949
950
951
952
953
954
955
956
957
958
959
960
961
962
963
964
965
966
967
968
969
970
971
972
973
974
975
976
977
978
979
980
981
982
983
984
985
986
987
988
989
990
991
992
993
994
995
996
997
998
999
1000
1001
1002
1003
1004
1005
1006
1007
1008
1009
1010
1011
1012
1013
1014
1015
1016
1017
1018
1019
1020
1021
1022
1023
1024
1025
1026
1027
1028
1029
1030
1031
1032
1033
1034
1035
1036
1037
1038
1039
1040

```

```

action="http://quote.yahoo.com/quotes"><font size="-1"><input type="text" size=10
name=symbols><input type="submit" value="Get Quotes"><br><font size="0">quotes
delayed 20 minutes - <a href="/fin_disclaimer.html">disclaimer</a><br>click on
5 symbol for detailed quote + news<br><b>*</b> indicates new news during last
24hrs<font></font></td></tr></table>
<hr size=0><table border=0 cellpadding=1 cellspacing=0 width="100%">
<tr bgcolor="#dcdcdc"><td colspan=5 width="100%"><table border=0 cellpadding=2
cellspacing=0 width="100%"><tr><td width="100%"><a
10 href="/sum/?http://sports.yahoo.com/"><b><font size="+1">S<font
size="+0">COREBOARD</font></b></a></td><td align=right><a
href="http://edit.my.yahoo.com/config/set_sports?.done=http://my.yahoo.com/news/su
mmary.html?v"></a></td></tr></table></td></tr>
<tr><td colspan=5><b><font size="-1">TODAY</font></b></td></tr>
<tr><td valign=top><font size=-1><a
href="http://sports.yahoo.com/al/">AL</a></font></td><td valign=top><font size=-
20 1>Detroit<br><b>Oakland</b></font></td><td align=right valign=top><font size=-
1>8<br>9</font></td><td valign=top>&#160;</td><td valign=top><font size=-1><a
href="http://sports.yahoo.com/al/rcps/970603/detoak.html">F</a></font></td></tr>
<tr><td valign=top><font size=-1><a
25 href="http://sports.yahoo.com/nl/">NL</a></font></td><td valign=top><font size=-
1>San Francisco<br><b>Florida</b></font></td><td align=right valign=top><font
size=-1>9<br>1</font></td><td valign=top>&#160;</td><td valign=top><font size=-
1><a
href="http://sports.yahoo.com/nl/rcps/970603/sfofla.html">F</a></font></td></tr>
30 <tr><td colspan=5><b><font size="-1">YESTERDAY</font></b></td></tr>
<tr><td valign=top><font size=-1><a
href="http://sports.yahoo.com/al/">AL</a></font></td><td valign=top><font size=-
1>Detroit<br><b>Oakland</b></font></td><td align=right valign=top><font size=-
1>8<br>7</font></td><td valign=top>&#160;</td><td valign=top><font size=-1><a
35 href="http://sports.yahoo.com/al/rcps/970602/detoak.html">F</a></font></td></tr>
<tr><td valign=top><font size=-1><a
href="http://sports.yahoo.com/nl/">NL</a></font></td><td valign=top><font size=-
1>San Francisco<br><b>Florida</b></font></td><td align=right valign=top><font
size=-1>2<br>4</font></td><td valign=top>&#160;</td><td valign=top><font size=-
40 1><a
href="http://sports.yahoo.com/nl/rcps/970602/sfofla.html">F</a></font></td></tr>
</table>

45 <hr size=0><table border=0 cellpadding=2 cellspacing=0 width="100%">
<tr bgcolor="#dcdcdc"><td colspan=3 width="100%"><table border=0 cellpadding=2
cellspacing=0 width="100%"><tr><td width="100%"><a
href="/my/?http://weather.yahoo.com/"><b><font size="+1">W<font
size="+0">EATHER</font></b></a></td><td align=right><a
50 href="http://edit.my.yahoo.com/config/set_wni?.done=http://my.yahoo.com/news/summa
ry.html?v"></a></td></tr></table></td></tr>
<tr><td><a href="http://weather.yahoo.com/forecast/Augusta_GA_US_f.html"><font
55 size="-1">Augusta, GA</font></a></td><td align=right><font size="-1">63...78

```

```

F</font></td><td align=right><font size="-1"></font></td></tr>
<tr><td><a href="http://weather.yahoo.com/forecast/London_UK_f.html"><font size="-
1">London, UK</font></a></td><td align=right><font size="-1">50...73
F</font></td><td align=right><font size="-1"></font></td></tr>
<tr><td><a href="http://weather.yahoo.com/forecast/Oakland_CA_US_f.html"><font
size="-1">Oakland, CA</font></a></td><td align=right><font size="-1">59...70
F</font></td><td align=right><font size="-1"></font></td></tr>
<tr><td><a href="http://weather.yahoo.com/forecast/San_Jose_CA_US_f.html"><font
size="-1">San Jose, CA</font></a></td><td align=right><font size="-1">54...75
F</font></td><td align=right><font size="-1"></font></td></tr>
<tr><td align=center colspan=3><font size=0>click on city for extended
forecast</font></td></tr>
</table>

<hr size=0>
<p></td>
<td align=center valign=top width="100%">
<center>
<table border=1 cellpadding=4 cellspacing=0 width="100%">
<tr>
<td bgcolor="#000000">
<table border=0 cellpadding=0 cellspacing=0 width="100%"><tr>
<td align=left valign=bottom><font color="#ffffff"
size="+1"><noBr><b>F</b></noBr></font><font
color="#ffffff"><b><noBr>RONT</noBr>&nbsp;<noBr>PAGE</noBr></b> - Jun 3
7:40pm</font></td>
<td align=right><a
href="http://edit.my.yahoo.com/config/edit_news?.hier=News+Summary%3aEdit&.done=ht
tp://my.yahoo.com/news/summary.html?v"></a></td></tr>
</table>
</td>
</tr>
</table>
</center>

<table border=1 cellpadding=2 cellspacing=0 width="100%">
<tr><td bgcolor="#dcdcdc" colspan=2><a href="/news/top_stories.html?v"><b><font
size="+1">B</font>reaking News</b></a>&nbsp;<i>Jun 3 5:03pm</i></td></tr>
<tr><td colspan=2><ul>
<li><a href="http://www.yahoo.com/headlines/970603/news/stories/bombing_61.html"
>Judge Moves to Avoid McVeigh 'Lynching'</a>
<li><a href=
"http://www.yahoo.com/headlines/970603/news/stories/bombingappeals_1.html">McVeigh
's Expected Appeals May Last Years</a>

```

```

5      <li><a
href="http://www.yahoo.com/headlines/970603/news/stories/bombingpenalty_1.html">Ex
perts: Plea for Mercy is McVeigh's Best Hope</a>
</ul></td></tr>
<tr><td bgcolor="#dcdcdc" colspan=2><a href="/news/world.html?v"><b><font
size="+1">W</font>orld</b></a>&nbsp;<i>Jun 3 2:09pm</i></td></tr>
<tr><td colspan=2><ul>
<li><a
10 href="http://www.yahoo.com/headlines/970603/international/stories/canada_6.html">C
anadian Liberals Face Thorny Issues</a>
<li><a
href="http://www.yahoo.com/headlines/970603/international/stories/nato_10.html">U.
15 S. Advocates Ready for NATO Expansion Fight</a>
<li><a
href="http://www.yahoo.com/headlines/970603/international/stories/leone_11.html">U
.S. Ferries More Foreigners from Sierra Leone</a>
</ul></td></tr>
20 <tr><td bgcolor="#dcdcdc" colspan=2><a
href="http://biz.yahoo.com/news/z0000.html"><b><font size="+1">U</font>.S. Stock
News and Report</b></a>&nbsp;<i></i></td></tr>
<tr><td colspan=2><ul>
25 <li><a href="http://biz.yahoo.com/finance/97/06/03/crdm_y001_1.html">Cardima Inc
IPO range reduced - underwriter</a>
<li><a href="http://biz.yahoo.com/finance/97/06/03/luk_wtsc_1.html">AMEX to trade
Leucadia, West TeleServices options</a>
<li><a href="http://biz.yahoo.com/finance/97/06/03/acv_acva_1.html">CBOE to trade
30 options on Alberto-Culver Class A</a>
</ul></td></tr>
<tr><td bgcolor="#dcdcdc" colspan=2><a href="/news/sports/mlb.html?v"><b><font
size="+1">M</font>ajor League Baseball</b></a>&nbsp;<i>Jun 3 5:15pm</i></td></tr>
<tr><td colspan=2><ul>
35 <li><a href="http://sports.yahoo.com/mlb/lgns/970603/draftlist.html">1997 baseball
free agent draft first round selections</a>
<li><a href="http://sports.yahoo.com/nl/lgns/970603/nlstars.html">Mike Piazza
leads balloting in NL All-Star voting</a>
<li><a href="http://sports.yahoo.com/nl/lgns/970603/nlvotes.html">National League
40 All-Star voting results</a>
</ul></td></tr>
<tr><td bgcolor="#dcdcdc" colspan=2><a
href="/news/entertainment/top_stories.html?v"><b><font
size="+1">E</font>ntertainment Top Stories</b></a>&nbsp;<i>Jun 3
45 6:35pm</i></td></tr>
<tr><td colspan=2><ul>
<li><a href="http://www.yahoo.com/headlines/970603
/entertainment/summary_1.html#headline_1">Clinton Reflects on Music </a>
50 <li><a href="http://www.yahoo.com/headlines/970603
/entertainment/summary_1.html#headline_2">Gifford: Marriage is Solid </a>
<li><a href="http://www.yahoo.com/headlines/970603
/entertainment/summary_1.html#headline_3">Rockabilly Legend Hospitalized </a>
</ul></td></tr>
55 <tr><td bgcolor="#dcdcdc" colspan=2><a

```

```

href="/news/entertainment/movies.html?v"><b><font size="+1">M</font>ovies +
Film</b></a>&nbsp; <i>Jun 3 10:13am</i></td></tr>
<tr><td colspan=2><ul>
5 <li><a href="http://www.yahoo.com/headlines/970603/entertainment
/stories/film_cage_1.html">FEATURE: Nicolas Cage Asks, Where Are The Heroes?</a>
<li><a href="http://www.yahoo.com/headlines/970603/entertainment
/stories/film_cassavetes_1.html">Nick Cassavetes Updates Father's 'Bookie'</a>
10 <li><a href="http://www.yahoo.com/headlines/970603/entertainment
/stories/film_boxoffice_9.html">'Lost World' Props Up Slow Box Office</a>
</ul></td></tr>
</table>

15 </td></tr>
</table>

<center>
<table border=1 cellpadding=2 cellspacing=0 width="100%">
20 <tr bgcolor="#f0f8ff">
<td align=center colspan=2><table border=0 cellpadding=2 cellspacing=0
width="100%">
<tr><td align=left width="60%"><font size="-1"><b>TIP&nbsp;</b> clicking on the My
25 Yahoo! logo at the top will reload and update your default page.</font></td><td
align=center width="28%" nowrap><font size="-1"><a
href="http://bwguide.yahoo.com/bwguide/start.html">Yahoo! BackWeb Channel
Guide</a><br><a href="http://www.yahoo.com/docs/info/outreach/">Yahoo! Community
Relations</a></font><br><br><font size="-1"><a
30 href="/motn/?http://local.yahoo.com/local/">Get Local</a> &#183; <a
href="/motn/?http://my.yahoo.com/ticker.html">News Ticker</a> &#183; <a
href="/motn/?http://fool.yahoo.com/fool">Motley Fool</a></font></td></tr>
</table></td>
35 </tr>
</table>
</center>
<p>
<hr>
<center>
40 <table border=0 cellpadding=0 cellspacing=0 width="100%">
<tr>
<td align=left valign=top><table border=0 cellpadding=0 cellspacing=0>
<tr><td align=left valign=bottom><a href="/my/?http://www.yahoo.com/"></a></td>
<td>&nbsp; &nbsp; &nbsp;</td>
<td align=left valign=bottom width="100%"><font size="-1"><i>Copyright &copy;
50 1994-1997 Yahoo! Inc. All rights reserved.</i><br>Portions copyright &copy; 1997
Reuters Ltd. All rights reserved.<br>
Portions copyright &copy; 1997 SportsTicker Enterprises LP. All rights
reserved.<br>
Portions copyright &copy; 1997 Weathernews Inc. All rights reserved.<br>
Portions copyright &copy; 1997 Business Wire. All rights reserved.<br>
55 Portions copyright &copy; 1997 PR Newswire. All rights reserved.<br>

```

```

Questions, comments, or suggestions? Send us <a
href="http://my.yahoo.com/feedback.html">feedback</a>.</font></td>
</tr>
5  </table>
    </td>
    <td>&nbsp; &nbsp; &nbsp; </td>
    <td align=right><a href="/bin/logout_menu"></a></td>
    </tr>
    </table>
    </center>
15 <map name=logout>
    <area coords="0,0,50,68" href="/my/?http://www.yahoo.com/">
    <area coords="51,0,100,68" href="http://edit.my.yahoo.com/config/login?logout=1">
    </map>
20 </body>
    </html>

```

25

## Claims

1. A server system for serving a customized information page to a user at a browser on request, comprising:
  - 30 a database of user configurations;
  - means for obtaining information from the user referencing a record in the database of user configurations, the record being a record for the user;
  - means for generating a template based on the record for the user;
  - a plurality of user processes, one process per user accessing the server system;
  - 35 a shared memory;
  - a data structure within the shared memory for storing the dynamic information needed to generate the customized information page; and
  - response means for responding to a request with an information page containing dynamic information from the data structure formatted according to the template generated for the user making the request.
  - 40
2. The server system of claim 1, wherein the plurality of user processes execute on a plurality of servers, the server system further comprising a means for assigning one of the plurality of servers to users who send requests to the server system but do not already have an associated user process.
- 45 3. The server system of claim 2, wherein the means for assigning servers is a means for assigning a specific server to a particular user, such that the particular user is assigned the specific server for each request.
4. The server system of claim 3, further comprising a cache for caching templates for recently serviced users on each of the specific servers assigned to particular users.
- 50 5. The server system of any of claims 1 to 4, further comprising a cache for caching templates for recently serviced users.
6. The server system of any of claims 1 to 5, further comprising means for generating default user configurations based on user demographic information.
- 55 7. The server system of claim 6, further comprising means for determining a default list of cities for a weather report and sports teams for sports reporting based on user demographic information.



8. The server system of claim 7, wherein the means for determining the default list of cities and default lists of sports teams uses user postal code information, the server system further comprising:

means for translating postal code information to user geographic position;  
means for comparing the user geographic position to geographic positions assigned to each city and sports team; and  
means for determining a threshold distance from the user geographic position which is greater than or equal to a distance to a predetermined nonzero number of cities and a predetermined nonzero number of sports team geographic positions.

9. A method of serving custom news pages, comprising the steps of:

collecting current security quotes for each of a plurality of selectable securities;  
collecting current sports news and scores for each of a plurality of selectable sports events;  
collecting current news headlines which reference news articles;  
formatting the current security quotes, current sports news and current news headlines into a data structure stored in a shared memory;  
accepting a request for a custom page from a user;  
in response to the request, reading a user template for the user from a template database, wherein the user template describes a layout of a custom news page customized for the user;  
populating a page based on the read user template and the current data stored in the data structure in the shared memory to form a custom news page; and  
providing the custom news page to the user in realtime response to the request.

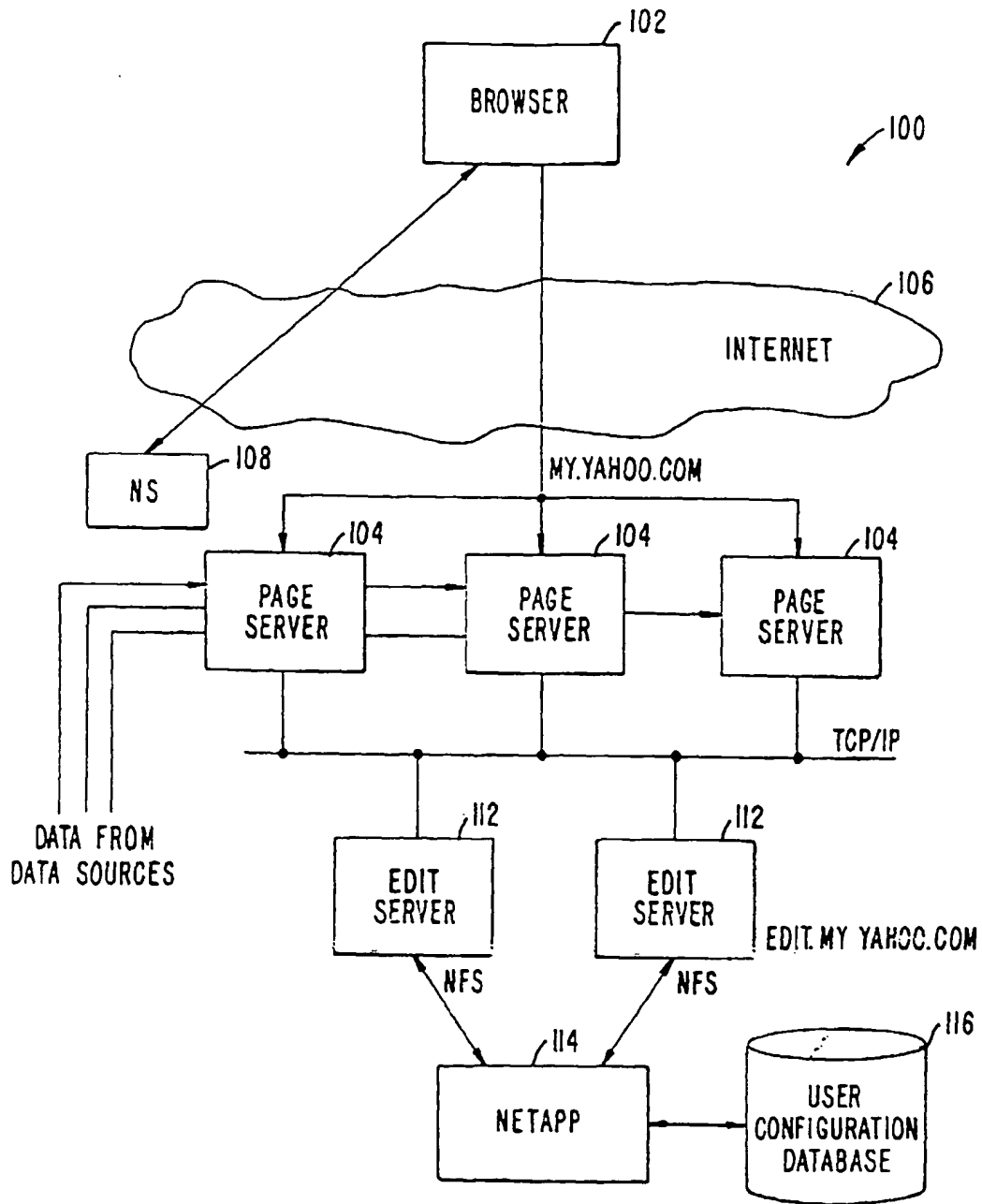


FIG. 1.

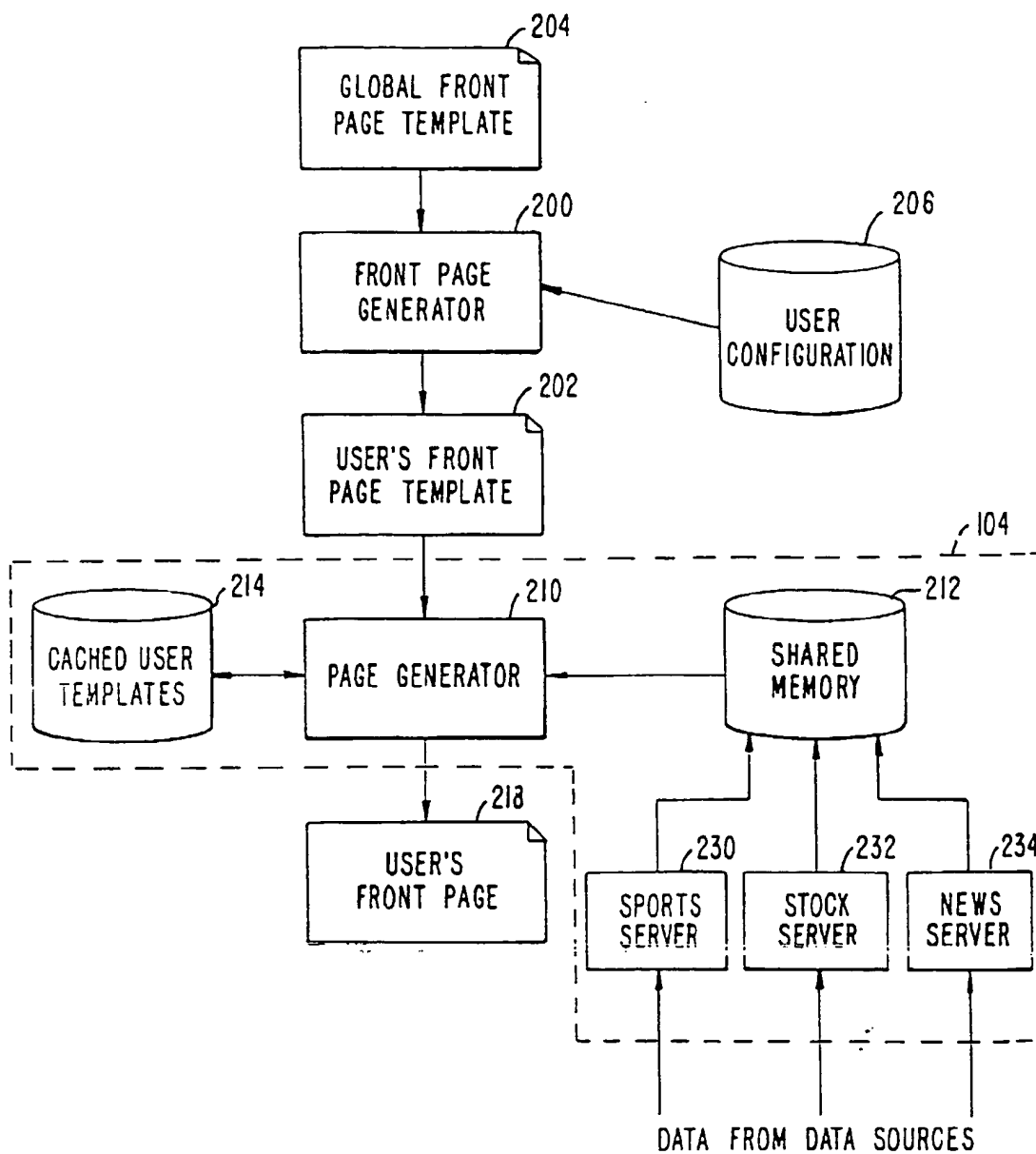


FIG. 2.

```

<html>
<head>
<title>My Yahoo! news summary for <!-- login --></title>
</head>
<body>

<center>
<!--banner:sum -->

<!-- ad -->
<!-- nav bar --> ~ 302
</center>

<table border=1 cellpadding=4 cellspacing=0 width=100%>
<tr><td align=center valign=top width="1%">
<!-- leftside:nsum --> ~ 302

<p></td>
<td align=center valign=top width="100%">
<!-- mode bar:"FRONT_PAGE" -->
<!-- channel:nsum --> ~ 302

</td></tr>
</table>

<center>
<table border=1 cellpadding=2 cellspacing=0 width=100%>
<!-- motd:motn.html -->
</table>
</center>
<!-- search -->

<!-- copyright:sum -->

</body>
</html>

```

204

FIG. 3.

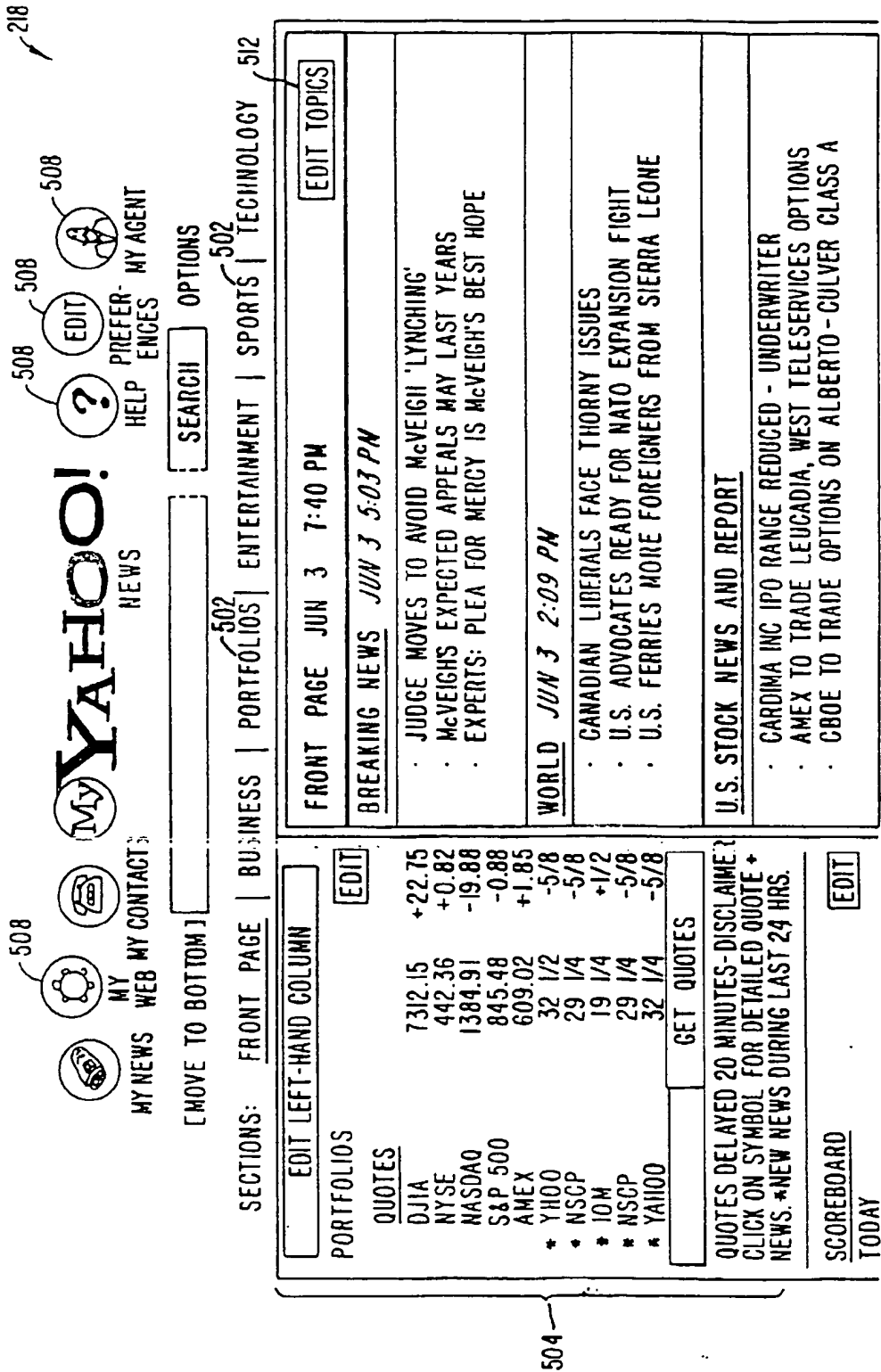
202

```

<!-- timezone:-8,PT 0 -->
<!-- ad:M,85,95035,T,* 792 -->
<!-- portfolio:Quotes,df_1,1,^DJI,^NYA,^IXIC,^SPX,^XAX,YHOO,NSCP,IOM,NSCP,YHOO
2836 -->
<!--
404 { scoreboard:NCAAFSSC,NHSSAN,MLSSAN,NCAAFSSS,ALOAK,NBAGSW,NFLOAK,NCAAFCCD,NFLSFO
,NLSFO 3803 -->
<!-- weather:f,30901,us_londo,94601,95101 4368 -->
<!--
mode_bar:"FRONT_PAGE",.hier=News+Summary%3aEdit&.done=http://my.yahoo.com/news
/summary2:3,rt,rw,z000,mlb,re,vf 4597 -->
<!-- motd:us_motn.html 4696 -->
<html>
<head>
<title>My Yahoo! news summary for ash802</title>
</head>
<body>
...
</body>
</html>

```

FIG. 4.



AL

DETROIT

8 F

OAKLAND

9

NL

SAN FRANCISCO

9 F

FLORIDA

1

YESTERDAY

AL

DETROIT

8 F

OAKLAND

7

NL

SAN FRANCISCO

2 F

FLORIDA

4

WEATHER

EDIT

AUGUSTA, GA

63...78 F

LONDON, UK

50...73 F

OAKLAND, CA

59...70 F

SAN JOSE, CA

54...75 F

CLICK ON CITY FOR EXTENDED FORECAST

504

MAJOR LEAGUE BASEBALL JUN 3 5:15PM

1997 BASEBALL FREE AGENT DRAFT FIRST ROUND SELECTIONS

MIKE PIAZZA LEADS BALLOTING IN NL ALL-STAR VOTING

NATIONAL LEAGUE ALL-STAR VOTING RESULTS

ENTERTAINMENT TOP STORIES JUN 3 6:35PM

CLINTON REFLECTS ON MUSIC

GIFFORD: MARRIAGE IS SOLID

ROCKABILITY LEGEND HOSPITALIZED

MOVIES + FILM JUN 3 10:13AM

FEATURE: NICOLAS CAGE ASKS, WHERE ARE THE HEROES?

NICK CASSAVETES UPDATES FATHER'S 'BOOKIE'

'LOST WORLD' PROPS UP SLOW BOX OFFICE

506

510

504

YAHOO! BACK WEB CHANNEL GUIDE

YAHOO! COMMUNITY RELATIONS

GET LOCAL · NEWS TICKER · MOTLEY FOOL

TIP CLICKING ON THE MY YAHOO! LOGO AT THE TOP WILL RELOAD AND UPDATE YOUR DEFAULT PAGE.

FIG. 5B.

FIG. 5A.  
FIG. 5B.

23

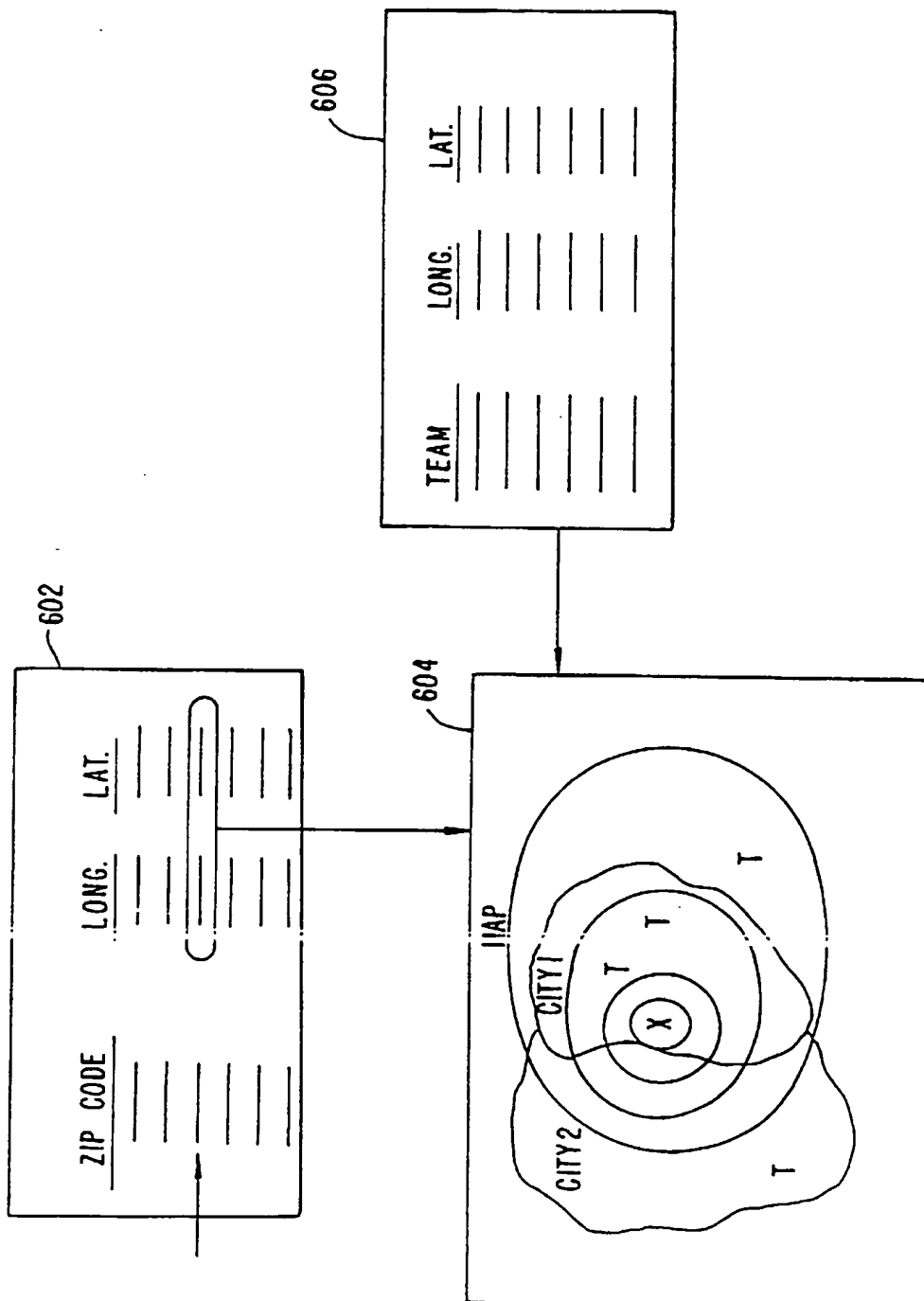


FIG. 6.





European Patent  
Office

## EUROPEAN SEARCH REPORT

Application Number  
EP 98 30 4651

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	QUINTANA Y: "KNOWLEDGE-BASED INFORMATION FILTERING OF FINANCIAL INFORMATION" PROCEEDINGS OF THE NATIONAL ONLINE MEETING, 13 May 1997, pages 279-285, XP002057953 * the whole document *	1,6,7,9	G06F17/30
A	---	2-5,8	
X	EP 0 749 081 A (POINTCAST INC) 18 December 1996 * abstract * * page 3, line 15 - page 3, line 29 * * page 6, line 7 - page 6, line 19 * * page 11, line 3 - page 11, line 47 * * claims *	1-3,9	
Y	---	4,5	
A	WO 97 17662 A (C NET INC) 15 May 1997 * abstract * * page 2, line 21 - page 3, line 12 *	1-3	
Y	---	4,5	TECHNICAL FIELDS SEARCHED (Int.Cl.6)
X	CHESNAIS, P.R., MUCKLO, M.J., SHEENA, J.A.: "The Fishwrap personalized news system" PROCEEDINGS OF THE 2ND INTERNATIONAL WORKSHOP ON COMMUNITY NETWORKING INTEGRATED MULTIMEDIA SERVICES IN THE HOME, 20 - 22 June 1995, pages 275-282, XP002074902 Princeton, NJ, USA * page 275, column 1, line 42 - page 276, column 1, line 11 * * page 277, column 2, line 29 - page 279, column 1, line 6 * -----	1,6-9	G06F
The present search report has been drawn up for all claims			
Place of search <b>THE HAGUE</b>		Date of completion of the search <b>19 August 1998</b>	Examiner <b>Abbing, R</b>
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

EPO FORM 1503 03/92 (Pct/Ce)